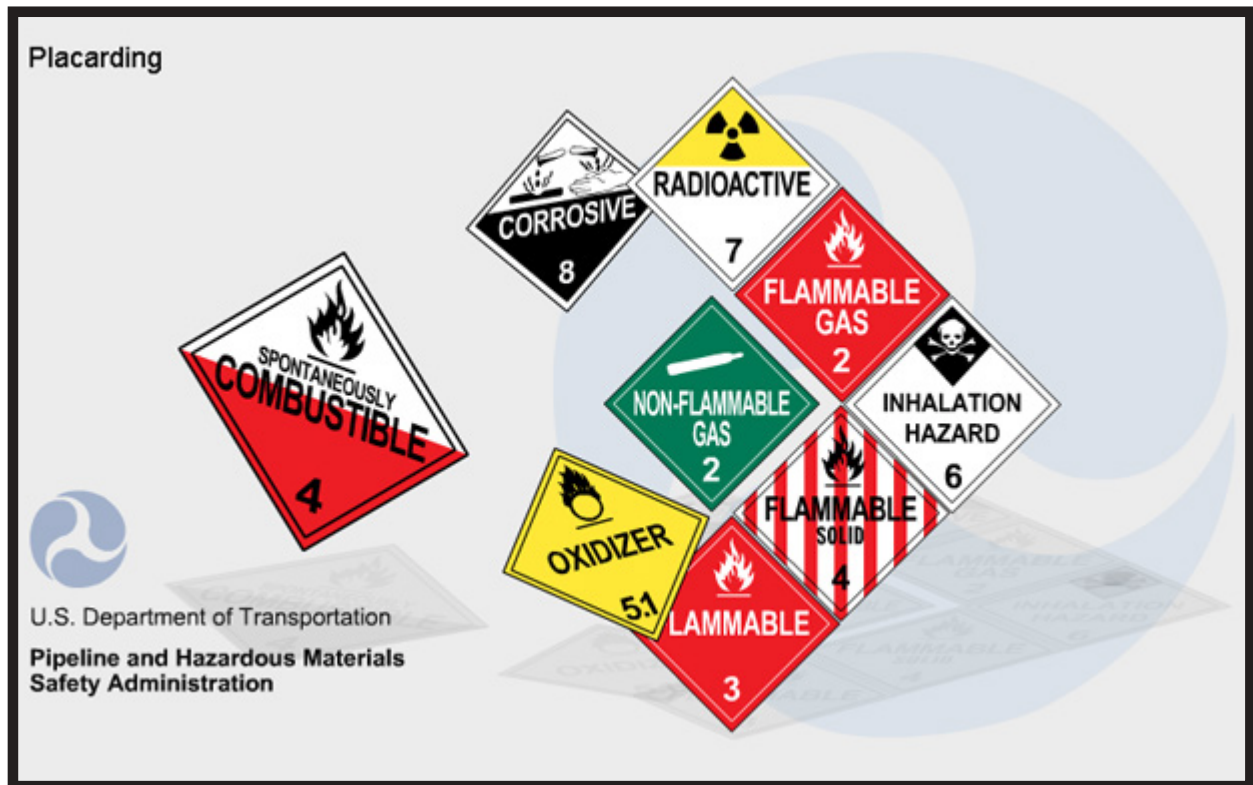


VERSION 5.0

STUDENT



MODULE 4

Script

Visual

Narrative

1



When an accident causes hazardous materials in transportation to be released, the vehicle operator, emergency response teams, and the surrounding community all face imminent danger. Emergency response teams must accurately identify these materials as quickly as possible. To aid emergency response teams, DOT developed a system of placarding for the rapid identification of hazardous materials. Emergency responders are trained to look for these warning placards. Improperly placarded or unplacarded hazmat shipments place the lives of these individuals and others at risk. This module will review how placards are used to communicate valuable information to these emergency responders, and others who deal with these materials on a daily basis.

2



After completing Module 4 on Placarding, you should be able to:

- Identify the requirements for placarding, and any exceptions or modifications allowed with these requirements.
- Examine the two placarding tables in 172.504(e) to determine placarding requirements.
- Identify the requirements for placard placement, visibility, and design.

3



The general rule to apply when determining the placarding requirements for hazardous materials is simple – if a hazardous material is contained within a transport vehicle, bulk packaging, freight container, unit load device, or rail car, then a placard representing the hazard class for the hazardous material must be displayed on both sides and each end, regardless of quantity. The regulations allow other approaches to placarding under specific circumstances. These are exceptions to this basic rule.

4



If you offer for transportation or transports any hazardous material subject to the HMR, you must comply with the applicable placarding requirements of Part 172 – Subpart F – Placarding. Placards are placed on bulk packagings, freight containers, transport vehicles, and rail cars to alert the public of the potential dangers of the product being transported and to guide emergency responders in the event of an incident or accidental release. One of the exceptions to these placarding requirements provided for in the HMR involves the seven groups of materials listed here:

- Infectious substances;
- Hazardous materials classed as Consumer Commodities;
- Hazardous materials offered for transportation as Limited Quantities when identified as such on the shipping papers with the words “Limited Quantity” or “Ltd Qty” following the basic description;
- Hazardous materials prepared in accordance with §173.13 of the HMR;
- Hazardous materials which are packaged as small quantities under the provisions of §173.4 of the HMR;
- Combustible liquids in non-bulk packagings; and
- Class 9 materials when transported between places in the United States other than through a foreign country.

5

Professor Fed's Knowledge Check 1

Instructions: Select the best answer from the four choices provided. You will have two chances to correctly answer this question.

Placards are not required for infectious substances, hazardous materials authorized to be offered as limited quantities, small quantities of certain hazardous materials, _____, hazardous materials prepared in accordance with § 173.13, and combustible liquids in non-bulk packagings.

- A. Hazardous substances
- B. Hazardous wastes
- C. ORM-D materials
- D. Radioactive materials

6



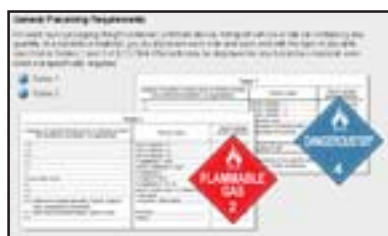
No person may affix or display on a packaging, freight container, unit load device, motor vehicle or rail car any placard described in the HMR unless the material being offered or transported is a hazardous material; the placard represents a hazard of the hazardous material being offered or transported; and the placarding conforms to the requirements of the HMR. Additionally, any sign, advertisement, slogan (such as “Drive Safely”), or device that, by its color, design, shape or content, could be confused with any placard prescribed in the HMR is prohibited.

7



These restrictions do not apply to a bulk packaging, freight container, unit load device, transport vehicle or rail car which is placarded in conformance with the Transportation of Dangerous Goods (TDG) Regulations, the International Maritime Dangerous Goods (IMDG) Code, or the United Nations (UN) Recommendations. These restrictions also do not apply to the display of a BIOHAZARD marking, a “HOT” marking, or an identification number on a white square-on-point configuration in accordance with the HMR.

8



For each bulk packaging, freight container, unit load device, transport vehicle or rail car containing any quantity of a hazardous material, you must placard each side and each end with the type of placards specified in Tables 1 and 2 of §172.504 and in accordance with other placarding requirements of the HMR, unless a specific placarding exception is provided for that quantity of material or hazard class or division. Do not confuse these two placarding tables with the Hazardous Materials Table found in §172.101. When determining which placards must be used and what options are available, both placarding tables must be considered. You may placard a hazardous material shipment, even when an exception makes it unnecessary, if the placarding otherwise conforms to the requirements of the HMR for the hazards presented. First, we’ll look at the basic placarding requirements set out in Table 1 and Table 2. Then, we’ll look at some of the exceptions and options. Select each button to learn more about the placarding requirements associated with Table 1 and Table 2.

9



Table 1 lists hazardous materials by category for which placarding is required for any quantity of material contained in the freight container, unit load device, transport vehicle, or rail car. No material, for which Table 1 applies, is duplicated in Table 2. Each material will be exclusive to only one of the two tables. Placarding requirements for hazard class or division numbers 5.2 and 6.1 are divided between Table 1 and Table 2 based on additional description information. Placarding for hazard class 7 materials is limited to Radioactive Yellow III labels only and exclusive use shipments of low specific activity and surface contaminated objects. As an example, any quantity of Sulfur dioxide, 2.3, UN1079 being shipped will be placarded based on Table 1.

Since the proper shipping name for this material indicates that it falls under the hazard class or division number 2.3, and Table 1 regulates all hazard class or division 2.3 materials – any quantity of Sulfur dioxide must be placarded with a “POISON GAS” placard.

10



The placarding requirements for Division 5.2, Organic peroxide materials are split between Table 1 and Table 2. All Division 5.2, Type B liquid or solid, temperature controlled organic peroxides are covered by Table 1, while all the other Division 5.2, Organic peroxides are covered by Table 2. Displayed here is a portion of the HMT with some of the Organic peroxide entries. The first two entries are listed as Organic peroxide type B, liquid, temperature controlled and Organic peroxide type B, solid, temperature controlled and are placarded according to Table 1; while the remaining Organic peroxide entries are all placarded according to Table 2.

11

Division 6.1 Exceptions

When placarding hazardous materials in motor vehicles, the placarding requirements of Table 1 and Table 2 apply. However, certain Division 6.1 materials are exempt from these requirements. The following table lists these materials and the placarding requirements that apply to them.

Material Name	UN Number	PL 1	PL 2	PL 3	PL 4	PL 5	PL 6	PL 7	PL 8	PL 9	PL 10	PL 11	PL 12	PL 13	PL 14	PL 15	PL 16	PL 17	PL 18	PL 19	PL 20	PL 21	PL 22	PL 23	PL 24	PL 25	PL 26	PL 27	PL 28	PL 29	PL 30	PL 31	PL 32	PL 33	PL 34	PL 35	PL 36	PL 37	PL 38	PL 39	PL 40	PL 41	PL 42	PL 43	PL 44	PL 45	PL 46	PL 47	PL 48	PL 49	PL 50	PL 51	PL 52	PL 53	PL 54	PL 55	PL 56	PL 57	PL 58	PL 59	PL 60	PL 61	PL 62	PL 63	PL 64	PL 65	PL 66	PL 67	PL 68	PL 69	PL 70	PL 71	PL 72	PL 73	PL 74	PL 75	PL 76	PL 77	PL 78	PL 79	PL 80	PL 81	PL 82	PL 83	PL 84	PL 85	PL 86	PL 87	PL 88	PL 89	PL 90	PL 91	PL 92	PL 93	PL 94	PL 95	PL 96	PL 97	PL 98	PL 99	PL 100	PL 101	PL 102	PL 103	PL 104	PL 105	PL 106	PL 107	PL 108	PL 109	PL 110	PL 111	PL 112	PL 113	PL 114	PL 115	PL 116	PL 117	PL 118	PL 119	PL 120	PL 121	PL 122	PL 123	PL 124	PL 125	PL 126	PL 127	PL 128	PL 129	PL 130	PL 131	PL 132	PL 133	PL 134	PL 135	PL 136	PL 137	PL 138	PL 139	PL 140	PL 141	PL 142	PL 143	PL 144	PL 145	PL 146	PL 147	PL 148	PL 149	PL 150	PL 151	PL 152	PL 153	PL 154	PL 155	PL 156	PL 157	PL 158	PL 159	PL 160	PL 161	PL 162	PL 163	PL 164	PL 165	PL 166	PL 167	PL 168	PL 169	PL 170	PL 171	PL 172	PL 173	PL 174	PL 175	PL 176	PL 177	PL 178	PL 179	PL 180	PL 181	PL 182	PL 183	PL 184	PL 185	PL 186	PL 187	PL 188	PL 189	PL 190	PL 191	PL 192	PL 193	PL 194	PL 195	PL 196	PL 197	PL 198	PL 199	PL 200	PL 201	PL 202	PL 203	PL 204	PL 205	PL 206	PL 207	PL 208	PL 209	PL 210	PL 211	PL 212	PL 213	PL 214	PL 215	PL 216	PL 217	PL 218	PL 219	PL 220	PL 221	PL 222	PL 223	PL 224	PL 225	PL 226	PL 227	PL 228	PL 229	PL 230	PL 231	PL 232	PL 233	PL 234	PL 235	PL 236	PL 237	PL 238	PL 239	PL 240	PL 241	PL 242	PL 243	PL 244	PL 245	PL 246	PL 247	PL 248	PL 249	PL 250	PL 251	PL 252	PL 253	PL 254	PL 255	PL 256	PL 257	PL 258	PL 259	PL 260	PL 261	PL 262	PL 263	PL 264	PL 265	PL 266	PL 267	PL 268	PL 269	PL 270	PL 271	PL 272	PL 273	PL 274	PL 275	PL 276	PL 277	PL 278	PL 279	PL 280	PL 281	PL 282	PL 283	PL 284	PL 285	PL 286	PL 287	PL 288	PL 289	PL 290	PL 291	PL 292	PL 293	PL 294	PL 295	PL 296	PL 297	PL 298	PL 299	PL 300	PL 301	PL 302	PL 303	PL 304	PL 305	PL 306	PL 307	PL 308	PL 309	PL 310	PL 311	PL 312	PL 313	PL 314	PL 315	PL 316	PL 317	PL 318	PL 319	PL 320	PL 321	PL 322	PL 323	PL 324	PL 325	PL 326	PL 327	PL 328	PL 329	PL 330	PL 331	PL 332	PL 333	PL 334	PL 335	PL 336	PL 337	PL 338	PL 339	PL 340	PL 341	PL 342	PL 343	PL 344	PL 345	PL 346	PL 347	PL 348	PL 349	PL 350	PL 351	PL 352	PL 353	PL 354	PL 355	PL 356	PL 357	PL 358	PL 359	PL 360	PL 361	PL 362	PL 363	PL 364	PL 365	PL 366	PL 367	PL 368	PL 369	PL 370	PL 371	PL 372	PL 373	PL 374	PL 375	PL 376	PL 377	PL 378	PL 379	PL 380	PL 381	PL 382	PL 383	PL 384	PL 385	PL 386	PL 387	PL 388	PL 389	PL 390	PL 391	PL 392	PL 393	PL 394	PL 395	PL 396	PL 397	PL 398	PL 399	PL 400	PL 401	PL 402	PL 403	PL 404	PL 405	PL 406	PL 407	PL 408	PL 409	PL 410	PL 411	PL 412	PL 413	PL 414	PL 415	PL 416	PL 417	PL 418	PL 419	PL 420	PL 421	PL 422	PL 423	PL 424	PL 425	PL 426	PL 427	PL 428	PL 429	PL 430	PL 431	PL 432	PL 433	PL 434	PL 435	PL 436	PL 437	PL 438	PL 439	PL 440	PL 441	PL 442	PL 443	PL 444	PL 445	PL 446	PL 447	PL 448	PL 449	PL 450	PL 451	PL 452	PL 453	PL 454	PL 455	PL 456	PL 457	PL 458	PL 459	PL 460	PL 461	PL 462	PL 463	PL 464	PL 465	PL 466	PL 467	PL 468	PL 469	PL 470	PL 471	PL 472	PL 473	PL 474	PL 475	PL 476	PL 477	PL 478	PL 479	PL 480	PL 481	PL 482	PL 483	PL 484	PL 485	PL 486	PL 487	PL 488	PL 489	PL 490	PL 491	PL 492	PL 493	PL 494	PL 495	PL 496	PL 497	PL 498	PL 499	PL 500	PL 501	PL 502	PL 503	PL 504	PL 505	PL 506	PL 507	PL 508	PL 509	PL 510	PL 511	PL 512	PL 513	PL 514	PL 515	PL 516	PL 517	PL 518	PL 519	PL 520	PL 521	PL 522	PL 523	PL 524	PL 525	PL 526	PL 527	PL 528	PL 529	PL 530	PL 531	PL 532	PL 533	PL 534	PL 535	PL 536	PL 537	PL 538	PL 539	PL 540	PL 541	PL 542	PL 543	PL 544	PL 545	PL 546	PL 547	PL 548	PL 549	PL 550	PL 551	PL 552	PL 553	PL 554	PL 555	PL 556	PL 557	PL 558	PL 559	PL 560	PL 561	PL 562	PL 563	PL 564	PL 565	PL 566	PL 567	PL 568	PL 569	PL 570	PL 571	PL 572	PL 573	PL 574	PL 575	PL 576	PL 577	PL 578	PL 579	PL 580	PL 581	PL 582	PL 583	PL 584	PL 585	PL 586	PL 587	PL 588	PL 589	PL 590	PL 591	PL 592	PL 593	PL 594	PL 595	PL 596	PL 597	PL 598	PL 599	PL 600	PL 601	PL 602	PL 603	PL 604	PL 605	PL 606	PL 607	PL 608	PL 609	PL 610	PL 611	PL 612	PL 613	PL 614	PL 615	PL 616	PL 617	PL 618	PL 619	PL 620	PL 621	PL 622	PL 623	PL 624	PL 625	PL 626	PL 627	PL 628	PL 629	PL 630	PL 631	PL 632	PL 633	PL 634	PL 635	PL 636	PL 637	PL 638	PL 639	PL 640	PL 641	PL 642	PL 643	PL 644	PL 645	PL 646	PL 647	PL 648	PL 649	PL 650	PL 651	PL 652	PL 653	PL 654	PL 655	PL 656	PL 657	PL 658	PL 659	PL 660	PL 661	PL 662	PL 663	PL 664	PL 665	PL 666	PL 667	PL 668	PL 669	PL 670	PL 671	PL 672	PL 673	PL 674	PL 675	PL 676	PL 677	PL 678	PL 679	PL 680	PL 681	PL 682	PL 683	PL 684	PL 685	PL 686	PL 687	PL 688	PL 689	PL 690	PL 691	PL 692	PL 693	PL 694	PL 695	PL 696	PL 697	PL 698	PL 699	PL 700	PL 701	PL 702	PL 703	PL 704	PL 705	PL 706	PL 707	PL 708	PL 709	PL 710	PL 711	PL 712	PL 713	PL 714	PL 715	PL 716	PL 717	PL 718	PL 719	PL 720	PL 721	PL 722	PL 723	PL 724	PL 725	PL 726	PL 727	PL 728	PL 729	PL 730	PL 731	PL 732	PL 733	PL 734	PL 735	PL 736	PL 737	PL 738	PL 739	PL 740	PL 741	PL 742	PL 743	PL 744	PL 745	PL 746	PL 747	PL 748	PL 749	PL 750	PL 751	PL 752	PL 753	PL 754	PL 755	PL 756	PL 757	PL 758	PL 759	PL 760	PL 761	PL 762	PL 763	PL 764	PL 765	PL 766	PL 767	PL 768	PL 769	PL 770	PL 771	PL 772	PL 773	PL 774	PL 775	PL 776	PL 777	PL 778	PL 779	PL 780	PL 781	PL 782	PL 783	PL 784	PL 785	PL 786	PL 787	PL 788	PL 789	PL 790	PL 791	PL 792	PL 793	PL 794	PL 795	PL 796	PL 797	PL 798	PL 799	PL 800	PL 801	PL 802	PL 803	PL 804	PL 805	PL 806	PL 807	PL 808	PL 809	PL 810	PL 811	PL 812	PL 813	PL 814	PL 815	PL 816	PL 817	PL 818	PL 819	PL 820	PL 821	PL 822	PL 823	PL 824	PL 825	PL 826	PL 827	PL 828	PL 829	PL 830	PL 831	PL 832	PL 833	PL 834	PL 835	PL 836	PL 837	PL 838	PL 839	PL 840	PL 841	PL 842	PL 843	PL 844	PL 845	PL 846	PL 847	PL 848	PL 849	PL 850	PL 851	PL 852	PL 853	PL 854	PL 855	PL 856	PL 857	PL 858	PL 859	PL 860	PL 861	PL 862	PL 863	PL 864	PL 865	PL 866	PL 867	PL 868	PL 869	PL 870	PL 871	PL 872	PL 873	PL 874	PL 875	PL 876	PL 877	PL 878	PL 879	PL 880	PL 881	PL 882	PL 883	PL 884	PL 885	PL 886	PL 887	PL 888	PL 889	PL 890	PL 891	PL 892	PL 893	PL 894	PL 895	PL 896	PL 897	PL 898	PL 899	PL 900	PL 901	PL 902	PL 903	PL 904	PL 905	PL 906	PL 907	PL 908	PL 909	PL 910	PL 911	PL 912	PL 913	PL 914	PL 915	PL 916	PL 917	PL 918	PL 919	PL 920	PL 921	PL 922	PL 923	PL 924	PL 925	PL 926	PL 927	PL 928	PL 929	PL 930	PL 931	PL 932	PL 933	PL 934	PL 935	PL 936	PL 937	PL 938	PL 939	PL 940	PL 941	PL 942	PL 943	PL 944	PL 945	PL 946	PL 947	PL 948	PL 949	PL 950	PL 951	PL 952	PL 953	PL 954	PL 955	PL 956	PL 957	PL 958	PL 959	PL 960	PL 961	PL 962	PL 963	PL 964	PL 965	PL 966	PL 967	PL 968	PL 969	PL 970	PL 971	PL 972	PL 973	PL 974	PL 975	PL 976	PL 977	PL 978	PL 979	PL 980	PL 981	PL 982	PL 983	PL 984	PL 985	PL 986	PL 987	PL 988	PL 989	PL 990	PL 991	PL 992	PL 993	PL 994	PL 995	PL 996	PL 997	PL 998	PL 999
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The placarding requirements for Division 6.1 materials are split between Table 1 and Table 2. All Division 6.1, Inhalation hazard, Zone A or B material is covered by Table 1, and placarded with the “POISON INHALATION HAZARD” placard. All other Division 6.1 materials are covered by Table 2, and placarded with the “POISON” placard.

Displayed here is a portion of the HMT with some of the Division 6.1 entries. Each of these materials contains the entry of 6.1 in column 3. If the entry for column 7, Special Provisions, contains the code 1 or 2, it indicates that the material is poisonous by inhalation in Hazard Zone A and Hazard Zone B, respectively.

12



The only difference between the “POISON GAS” and “POISON INHALATION HAZARD” placards is the numeral representing the hazard class. A “2” appears on the “POISON GAS” placard, whereas a “6” appears on the “POISON INHALATION HAZARD” placard. However, there are important differences in the treatment of the different materials.

13



While the placarding requirements for Class 7 Radioactive materials are solely guided by Table 1, not all Class 7 Radioactive materials require placarding. The exception for Class 7 in Table 1 states that placarding is required for “Radioactive Yellow III label only.” The footnote to Table 1, notes that a placard is also required for exclusive use shipments of low specific activity material and surface contaminated objects when shipped in accordance with §173.427. Each motor vehicle used to transport a package of highway route controlled quantity Class 7 (radioactive) material must display a “RADIOACTIVE” placard on a square white background. You don’t have to placard radioactive material labeled WHITE I or YELLOW II.

14

Professor Fed's Knowledge Check 2

Instructions: Select the best answer from the four choices provided. You will have two chances to correctly answer this question.

Which one of these materials does NOT use Table 1 to determine the appropriate placarding requirements?

- A. Aluminum carbide
- B. Aerosols, flammable, n.o.s.
- C. Ethyleneimine, stabilized
- D. Organic peroxide type B, solid, temperature controlled

15

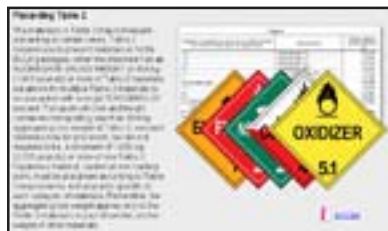
Professor Fed's Knowledge Check 3

Instructions: Select the best answer from the four choices provided. You will have two chances to correctly answer this question.

Which one of these materials does NOT use Table 1 to determine the appropriate placarding requirements?

- A. Battery fluid, acid, UN2796
- B. Diborane, UN1911
- C. Lithium silicon, UN1417
- D. Radioactive material, Yellow III label

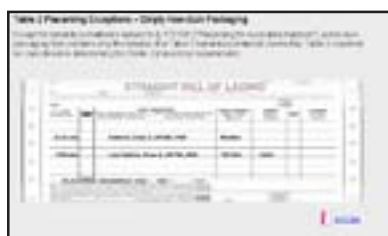
16



The materials in Table 2 may not require placarding in certain cases. Table 2 requires you to placard materials in NON-BULK packages, when the shipment has an AGGREGATE GROSS WEIGHT of 454 kg (1,001 pounds) or more of Table 2 materials, but allows for multiple Table 2 materials to be placarded with a single “DANGEROUS” placard.

Transport vehicles and freight containers transporting less than 454 kg aggregate gross weight of Table 2, non-bulk materials may be placarded, but are not required to be. A shipment of 1,000 kg (2,205 pounds) or more of one Table 2 hazardous material, loaded at one loading point, must be placarded according to Table 2 requirements, with placards specific to each category of materials. Remember, the aggregate gross weight applies only to the Table 2 materials in your shipment, not the weight of other materials. Placarding requirements for hazard class or division numbers 5.2 and 6.1 are divided between Table 1 and Table 2 based on additional description information.

17



Except for hazardous materials subject to §172.505 (“Placarding for subsidiary hazards”) a non-bulk packaging that contains only the residue of a Table 2 hazardous material covered by Table 2 need not be considered when determining the Table 2 placarding requirements.

18



When more than one division placard is required for Class 1 materials on a transport vehicle, rail car, freight container or unit load device, only the placard representing the lowest division number must be displayed. The “EXPLOSIVE 1.4” placard is not required for those Division 1.4 Compatibility Group S (1.4S) materials that are not required to be labeled 1.4S. Finally, for shipments of Class 1 (explosive materials) by aircraft or vessel, the applicable compatibility group letter must be displayed on the placards, or labels. When more than one compatibility group placard is required for Class 1 materials, only one placard is required to be displayed, as provided in paragraphs (g)(1) through (g)(4) of §172.504.

19



Additional placarding exceptions exist for these other classes and divisions of hazardous materials placarded under Table 2. Exceptions are provided for materials found under these class or division numbers. Select each button to learn more about each of these exceptions.

20



21



22

[illegible]

23

[illegible]

24

[illegible]

25

Professor Fed's Knowledge Check 4

Instructions: Select the best answer from the four choices provided. You will have two chances to correctly answer this question.

Which one of these materials does NOT use Table 2 to determine the appropriate placarding requirements?

- A. Hydrocyanic Acid, aqueous solutions, 20%, UN1613
- B. Ethylene, refrigerated liquid
- C. Fertilizer ammoniating solution
- D. Octadecyltrichlorosilane

26

Professor Fed's Knowledge Check 5

Instructions: Select the best answer from the four choices provided. You will have two chances to correctly answer this question.

Which one of these materials does NOT use Table 1 to determine the appropriate placarding requirements?

- A. Octonal
- B. Consumer commodity
- C. Magnesium silicide
- D. Nitrosyl chloride

27



You may use the “DANGEROUS” placard on a freight container, unit load device, transport vehicle, or rail car, if the shipment contains non-bulk packages with two or more categories of hazardous materials that require different placards as specified in Table 2. However, when 1,000 kg (2,205 pounds) aggregate gross weight or more of one category of material is loaded at one loading facility, the placard specified in Table 2 must be applied. For example, a transport vehicle is carrying a combined shipment of 454 kg of a Class 3, flammable liquid; 340 kg of a Class 8, corrosive material, and 113 kg of a Class 2, non-flammable gas material. Instead of displaying the three individual placards for “FLAMMABLE”, “CORROSIVE”, and “NON-FLAMMABLE” materials, as specified in Table 2, the “DANGEROUS” placard may be used instead, on this transport vehicle.

28



Do not use the “DANGEROUS” placard to placard shipments of Table 1 materials. Also, do not use the “DANGEROUS” placard to placard bulk packages like cargo tanks, portable tanks, or tank cars. Instead, affix the placard specified for each hazardous material to the container.

29

Professor Fed’s Knowledge Check 6

Instructions: Select the best answer from the four choices provided. You will have two chances to correctly answer this question.

Which of these shipments meets the requirements specified for the use of the “DANGEROUS” placard, in lieu of displaying the individual class or division placards?

- A. 227 kg of Cesium and 272 kg of Nitric oxide, compressed
- B. Tank car load of Gasoline, 3, UN1203
- C. Freight container with 317 kg of a Class 3 flammable liquid; 454 kg of a Class 8 corrosive material; and 136 kg of a Class 2 non-flammable gas.
- D. Transport vehicle with 1,043 kg of a Division 5.2 organic peroxide; 227 kg of a Class 8 corrosive material; and 91 kg of an ORM-D material.

30



Some hazardous materials have listed both a primary hazard and a subsidiary hazard in column 6 of the HMT. Under certain circumstances, both a primary hazard placard and a subsidiary hazard placard must be affixed for hazardous materials being shipped in transport vehicles, freight containers, portable tanks, unit load devices, or rail cars. Hazardous materials that possess secondary or subsidiary hazards may display subsidiary placards that correspond to the placards described here, even if not required to be displayed. Select each button to learn more about the special circumstances that require the placarding of subsidiary placards.

31



32



33



34

Professor Fed's Knowledge Check 7

Instructions: Click and drag each of the words shown here to fill in the blanks below. Select the word that best completes each statement. Each word is used only once. You will have two chances to correctly answer this exercise. Select the Done button when you are finished to receive feedback.

"CORROSIVE"

"EXPLOSIVES"

"FLAMMABLE"

"DANGEROUS WHEN WET"

"TOXIC GAS"

1. A unit load device contains a quantity of Maneb that requires "SPONTANEOUSLY COMBUSTIBLE" placards and a _____ placard on each side and each end.
2. A freight container contains 908 kg (2,002 pounds) of Radioactive material, uranium hexafluoride. In addition to the "RADIOACTIVE" placard that is required, what other placard should be affixed to this container? _____
3. A transport vehicle load of Hexafluoroacetone requires a _____ placard on each side and each end of the vehicle.

35



The shipper of any hazardous material must offer placards at the time of, or prior to, transportation, unless the transport vehicle is already placarded for the material being offered. Placards already displayed on motor vehicles, transport containers or portable tanks may be used to satisfy this requirement, if the placards are visible. Rail carriers may not accept any rail car for transportation, unless the car is properly placarded. Placarding is the joint responsibility of both the shipper and the carrier. Shipments that comply with the Hazardous Materials Regulations make the transportation of hazardous material safer for everyone. If the required placard is missing or damaged, no matter what the reason, the shipment should not be transported.

36



Special placarding provisions apply for transport involving motor vehicles on the highway and the movement of materials using nurse tanks.

37



Special placarding provisions apply for transport involving the transport of certain hazardous materials by rail car.

38

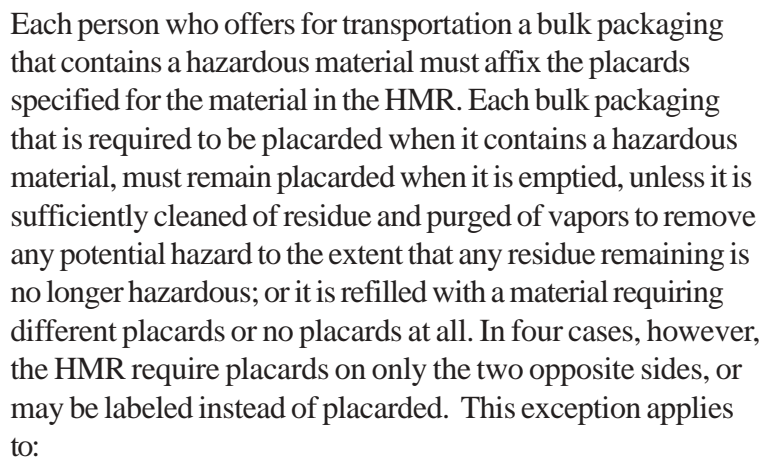


Each person who offers for transportation, and each person who loads and transports, a hazardous material in a freight container or aircraft unit load device of less than 18 cubic meters shall affix to the freight container or aircraft unit load device the placards specified for the material in accordance with the HMR. An exception is allowed for motor vehicles transporting freight containers and aircraft unit load devices containing less than 454 kg (1,001 pounds) of Table 2 materials. An additional exception is allowed for freight containers and aircraft unit load devices being transported for delivery to a consignee immediately following an air or water shipment. Finally, placarding is not required on a freight container or aircraft unit load device if it is only transported by air and is placarded in accordance with the ICAO Technical Instructions.

39



Each person who offers for transportation, and each person who loads and transports, a hazardous material in a freight container or aircraft unit load device of 18 cubic meters or more shall affix to the freight container or aircraft unit load device the placards specified for the material in accordance with the HMR. An exception is allowed for motor vehicles transporting freight containers and aircraft unit load devices containing less than 454 kg (1,001 pounds) of Table 2 materials. An additional exception is allowed for freight containers and aircraft unit load devices being transported for delivery to a consignee immediately following an air or water shipment. Finally, placarding is not required on a freight container or aircraft unit load device if it is only transported by air and is placarded in accordance with the ICAO Technical Instructions.



- A portable tank having a capacity of less than 3,785 L or 1000 gallons;
- A DOT 106 or 110 multi-unit tank car tank;
- A bulk packaging other than a portable tank, cargo tank, or tank car with a volumetric capacity of less than 18 cubic meters; and
- An intermediate bulk container.

41

Professor Fed's Knowledge Check 8

Instructions: Determine which placard, if any, must be displayed. If no placard needs to be displayed, select No Placard. Click and drag each of the words shown here to fill in the blanks below. Select the placard that best meets the requirements presented in each situation. Each named placard or No Placard may only be used once. You will have two chances to answer this exercise correctly. Select the Done button when you are finished to receive feedback.

“DANGEROUS”

“FLAMMABLE”

No Placard

“GASOLINE”

_____ 1. A rail tank car is returning empty with a residue of Class 3 (Flammable liquid). What is the appropriate placard to affix to the rail tank car?

_____ 2. A shipper offers to a motor carrier: 181 kg of a miscellaneous hazardous material (Class 9); 181 kg of a non-flammable gas in a non-bulk package (Division 2.2); and 363 kg of an oxidizer material in a non-bulk package (Division 5.1). What is the appropriate placard to affix to the motor vehicle?

_____ 3. A rail car is loaded with a van-type trailer loaded with 1700 liters of a flammable liquid in non-bulk packages (Class 3). The trailer is currently placarded with “FLAMMABLE” placards. What is the appropriate placard to affix to the rail car?

_____ 4. A cargo tank is returning empty to the distribution center from a delivery of 22,700 liters of gasoline (Class 3). What is the appropriate placard to affix to the cargo tank?

42

Professor Fed's Knowledge Check 9

Instructions: Select the placard that best meets the requirements presented of each situation by clicking and dragging each of the words shown here to fill in the blanks below. If no placard needs to be displayed, select “No Placard.” Each placard may only be used once. You will have two chances to answer this exercise correctly. Select the Done button when you are finished to receive feedback.

“DANGEROUS”

“RADIOACTIVE”

“POISON”

No Placard

_____ 1. A truck is transporting: 204 kg of a Class 7 (radioactive material) labeled YELLOW-III; and 204 kg of Benzene, a Class 3, flammable liquid in a non-bulk package. What is the appropriate placard to affix to this truck?

_____ 2. A motor vehicle is transporting: 340 kg of a Class 8, corrosive material; 14 kg of a Division 2.2, non-flammable gas; and 250kg of a Class 3, flammable liquid in non-bulk packages. What is the appropriate placard to affix to this motor vehicle?

_____ 3. A rail car is transporting: 2500 kg of a Class 3, flammable liquid, packaged and described as limited quantity; and fifty-five (208-liter) empty drums which contain the residue only of a Class 8, corrosive material. What is the appropriate placard to affix to the rail car?

_____ 4. A cargo truck is transporting: 363 kg of an ORM-D material; 136 kg of a Class 3, flammable liquid, packaged as small quantities; and 657 kg of a Division 6.1, PG III, poison material. What is the appropriate placard to affix to the cargo truck?

43



The square-on-point or diamond shaped hazmat placards are instantly recognizable around the world. Their unique shape, color, and text, as well as the images displayed within the placard borders, are designed to distinguish them from advertisements, logos, and other markings.

They remain distinctive only if they are visible and properly displayed.

- Each placard on a motor vehicle or on a rail car must be clearly visible from the direction it faces. A placard on the end of a transport vehicle or rail car is not required to be visible when it is coupled to another motor vehicle or rail car. You may also meet this requirement by placarding the freight containers or portable tanks loaded on a motor vehicle or rail car, but if a portable tank or freight container requiring placarding is inside a closed transport vehicle, the vehicle itself must be placarded.
- When the front of a motor vehicle must be placarded, you may placard the front of the truck-tractor instead of, or in addition to, the front of the cargo body.
- You must securely attach, affix, or place in a holder each placard on a transport vehicle, bulk packaging, freight container or aircraft unit load device. When you attach or secure a placard to a motor vehicle or rail car, you must not obscure any part of the placard's surface other than the borders. You may use a hinged placard or placard holder, provided the required format, color, and legibility of the placard are maintained.
- You must locate each placard clear of appurtenances and devices such as ladders, pipes, doors, and tarpaulins.
- You must locate each placard so that dirt or water is not directed toward it from the wheels of the transport vehicle.
- You must locate each placard at least 3 inches (76.0 mm) away from any markings or advertising that could substantially reduce its effectiveness.
- Each placard must have the words or identification number printed on it displayed horizontally, reading from left to right.
- The carrier must maintain each placard so that the format, legibility, color, and visibility of the placard will not be substantially reduced due to damage, deterioration, or obscurement by dirt or other matter.
- You must affix each placard to a background of contrasting color, or you must use a placard with a dotted or solid line outer border which contrasts with the background color.

44



The general specifications for hazardous materials placards are described by these four criteria: strength and durability, design, form identification, and exceptions. Select each button to learn specifically what the requirements are for hazardous materials placards.

45



46



47



48

**49**

Professor Fed's Knowledge Check 10

Instructions: Click and drag each of the words shown here to fill in the blanks below. Select the word that best completes each statement. Each word is used only once. You will have two chances to correctly answer this exercise. Select the Done button when you are finished to receive feedback.

direction tractor trailer attached doors horizontally vertically

1. Each placard affixed on a motor vehicle or on a rail car must be clearly visible from the _____ it faces.
2. Each placard must have any printed words, numbers, or ID #s displayed _____.
3. Each placard must be securely _____ to the transport vehicle, freight container, or aircraft unit load device.
4. The required placard for the front of the truck-tractor may be placed on the front of the _____ or on the front of the _____ or both.
5. Each placard must be located clear of ladders, pipes, _____, and tarps.

50



Now that you understand the general hazardous material placard specifications, let's turn our attention to what each of these hazard class placards look like and any specific requirements that exist for each. Select each hazard class number or symbol to learn more about each of these placards.

51



You can use the “DANGEROUS” placard, instead of multiple placards, for two or more non-bulk, Table 2 materials in the same shipment. If you load 1,000 kg or more of one category of Table 2 hazardous material, at one loading point, you may not use the “DANGEROUS” placard; rather, you must display the required class or division placard for that material. If you have a second Table 2 hazardous material of less than 1,000 kg., you may use either the specific Class or Division placard, or the “DANGEROUS” placard to represent that material.

52

Professor Fed's Knowledge Check 11

Instructions: Select the best answer from the four choices provided. You will have two chances to correctly answer this question.

For which of these possible loads could you use the “DANGEROUS” placard on the outside of the freight container, assuming the enclosed packagings are non-bulk containers?

- A. 1,000 kg. of hazard class / division 1.1 material and 227 kg. of hazard class / division 4.3 material
- B. 454 kg. of hazard class / division 1.4 material and 340 kg. of hazard class / division 4.1 material
- C. 454 kg. of hazard class / division 6.1, Zone A or B material and 998 kg. of hazard class / division 1.6 material
- D. 1,360 kg. of hazard class / division 1.5 material and 2,268 kg. of hazard class / division 8 material

53



In addition to the general placarding requirements in §172.519, these specific provisions apply for “EXPLOSIVES” placards. Select each button to view these placards and the specific requirements for each.

54



55



56









57



58

Professor Fed's Knowledge Check 12

Instructions: Complete this Knowledge Check by matching the shipping name with the placard that should be affixed to a bulk packaging, freight container, unit load device, transport vehicle, or rail car containing hazardous materials in a quantity requiring a placard. You will have two chances to correctly complete this exercise.

Ammunition, illuminating, UN0171	Bursters, UN0043		Explosive, blasting, type B, UN0331
Cartridges, signal, UN0054			Ammunition, practice, UN0362
	Articles, EEI, UN0486		

59



Each bulk packaging, freight container, unit load device, transport vehicle, or rail car containing hazardous materials must be placarded with the hazard class placard specified by the HMT. In addition to the general placarding requirements in §172.519, these specific provisions apply for “GAS” placards. Select each button to view these placards and the specific requirements for each.

60



61



62



63



64

Professor Fed's Knowledge Check 13





Instructions: Click and drag each of the shipping names to fill in the blank lines above each hazardous materials placard. Select the placard that must be affixed to a bulk packaging, freight container, unit load device, transport vehicle, or rail car containing hazardous materials in a quantity requiring a placard. Each shipping name is used only once. You will have two chances to answer this exercise correctly. Select the Done button when you are finished to receive feedback.

Arsine

Oxygen, compressed UN1072

Butane

Argon, compressed

	_____		_____
	_____		_____

65



You must use the “COMBUSTIBLE” placard for all quantities transported in bulk. You may replace the word “COMBUSTIBLE” with the words “FUEL OIL” on a placard that is displayed on a cargo tank or portable tank being used to transport by highway, fuel oil that is not classed as a flammable liquid. The words “FUEL OIL” must be white. On a “COMBUSTIBLE” placard with a white bottom, as prescribed by §172.332(c)(4), the class number must be red or black.

66



67

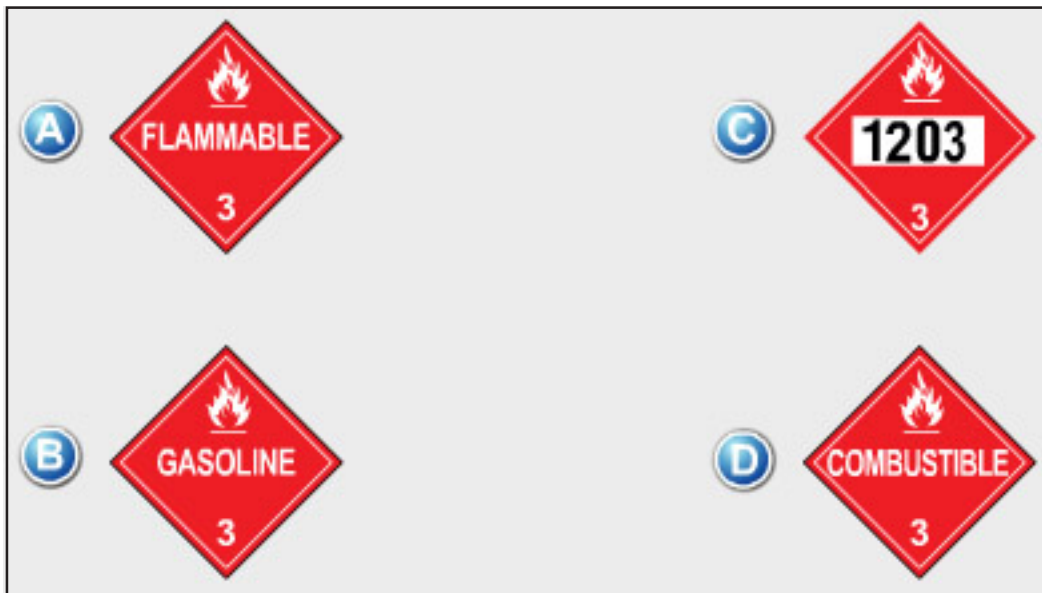


68

Professor Fed's Knowledge Check 14

Instructions: Select the best answer from the four choices provided. You will have two chances to correctly answer this question.

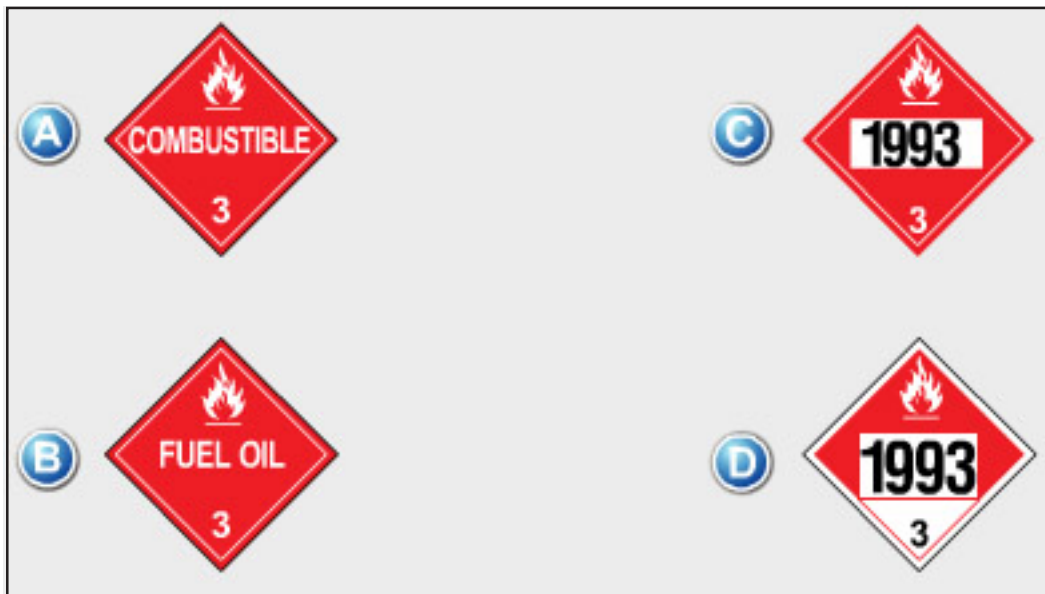
A cargo tank carrying 18,927 liters of gasoline by highway can be placarded with three of these four placards. Which of these placards is NOT appropriate for this highway shipment of 18,927 liters of gasoline?



69**Professor Fed's Knowledge Check 15**

Instructions: Select the best answer from the four choices provided. You will have two chances to correctly answer this question.

A tank car carrying 30,283 liters of fuel oil by rail, not classed as a flammable liquid, can be placarded with three of these four placards. Which of these placards is NOT appropriate for this rail shipment of 30,283 liters of fuel oil?



70



In addition to the general placarding requirements in §172.519, these specific provisions apply for the “FLAMMABLE SOLID,” “SPONTANEOUSLY COMBUSTIBLE,” and “DANGEROUS WHEN WET” placards. Select each button to view these placards and the specific requirements for each.

71



72








73



Professor Fed's Knowledge Check 16

Instructions: Complete this Knowledge Check by matching the shipping name with the hazardous materials placard that must be affixed to a bulk packaging, freight container, unit load device, transport vehicle, or rail car containing the hazardous material in a quantity requiring a placard. You will have two chances to correctly complete this exercise.

Fuel oil	Zirconium powder, dry		Cesium
	Gasoline		Fusee
		Argon, compressed	

75



In addition to the general placarding requirements in §172.519, these specific provisions apply for “OXIDIZER” and “ORGANIC PEROXIDE” placards. Select each button to view these placards and the specific requirements for each.

76







77



Professor Fed's Knowledge Check 17

Instructions: Click and drag each of the shipping names to fill in the blank lines above each hazardous materials placard. Select the placard that must be affixed to a bulk packaging, freight container, unit load device, transport vehicle, or rail car containing hazardous materials in a quantity requiring a placard. Each shipping name is used only once. You will have two chances to answer this exercise correctly.

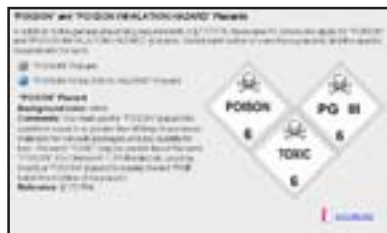
	_____		_____
	_____		_____

79



In addition to the general placarding requirements in §172.519, these specific provisions apply for “POISON” and “POISON INHALATION HAZARD” placards. Select each button to view these placards and the specific requirements for each.

80



81



82

Professor Fed's Knowledge Check 18

Instructions: Select the best answer from the four choices provided. You will have two chances to correctly answer this question.

A transport vehicle carrying 500 kg of Lead acetate by highway can be placarded with three of these four placards. Which of these placards is NOT appropriate for this highway shipment of 500 kg of Lead acetate?



83



You must use the “RADIOACTIVE” placard for any quantity of a shipment containing packages bearing the “RADIOACTIVE - Yellow III” label, and for exclusive use shipments of low specific activity material and surface contaminated objects. The trefoil symbol must meet the appropriate specifications in Appendix B of Part 172.

84

Professor Fed's Knowledge Check 19

Instructions: Select the best answer from the four choices provided. You will have two chances to correctly answer this question.

Which of these loads, containing radioactive material, require the placarding of the transport vehicle with this Class 7 “RADIOACTIVE” placard?

- A. A package of radioactive material with a TI of 0.03 and a maximum radiation level of 0.25 mrem/h
- B. A package containing a highway route controlled quantity of radioactive material
- C. A package of radioactive material with a TI of 0.3 and a maximum radiation level of 25 mrem/h
- D. A package of radioactive material with a TI of 0.9 and a maximum radiation level of 50 mrem/h

85



You must use the “CORROSIVE” placard for quantities equal to or greater than 454 kg of corrosive material for non-bulk packages, and any quantity for bulk.

86

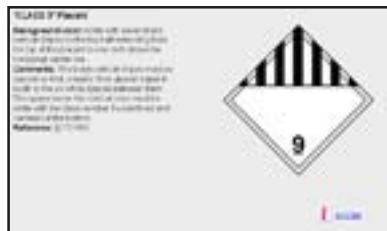
Professor Fed’s Knowledge Check 20

Instructions: Select the best answer from the four choices provided. You will have two chances to correctly answer this question.

Which of these loads, containing a quantity of material requiring the placarding of the transport vehicle, would require the placarding of the transport vehicle with this Class 8 “CORROSIVE” placard?

- A. A package of hazardous material marked with the shipping name – Acrolein, stabilized
- B. A package of hazardous material marked with the shipping name – Fish meal, stabilized
- C. A package of hazardous material marked with the shipping name – Acetyl iodide
- D. A package of hazardous material marked with the shipping name – Fluoroacetic acid

87



Domestic shipments of Class 9 materials in non-bulk packagings do not require placarding. Bulk packaging of Class 9 material must be marked with the appropriate ID number displayed on a “CLASS 9” placard, an orange panel, or a white square-on-point display

88

Professor Fed’s Knowledge Check 21

Instructions: Select the best answer from the four choices provided. You will have two chances to correctly answer this question.

Which of these loads, containing a quantity of hazardous material would require the placarding of the transport vehicle with this “CLASS 9” Miscellaneous placard?

- A. A domestic shipment in a non-bulk package of White asbestos
- B. A domestic shipment in a bulk packaging of Sodium hydride
- C. A non-bulk package of Phosgene
- D. A shipment destined for Europe in a bulk packaging of Zinc dithionite

89



This concludes the instruction and Knowledge Checks for Module 4 – Placarding. Placarding is the most visible indicator to emergency responders and enforcement officers that hazardous materials are present. Make sure you communicate the correct information by use of these placards; a life may depend on it. You should now be able to:

- Identify the requirements for placarding, and any exceptions or modifications allowed with these requirements;
- Examine the two placarding tables in §172.504(e) to determine placarding requirements;
- Identify the requirements for placard placement and visibility.

It is now time to assess how well you understand the information presented in this module. When you are ready, select Test on the Express Lane, to begin the end of module test for Module 4. This will be an open reference test. Good luck.

End of Module Test

Now that you have completed reviewing the topic on Placarding, let's evaluate how well you have mastered this material. This end of module test contains twenty-five multiple-choice questions to determine your mastery of the three learning objectives covering Placarding. This is an open reference book test and you may use any of the references that you have to assist you in successfully completing this test.

Instructions: Select the best answer from the four choices provided.

Question #1

What placard is required for a 0.45 kg. package of Division 1.1 explosives?

- A. "DANGEROUS"
- B. "EXPLOSIVES 1.1"
- C. "FLAMMABLE SOLID"
- D. None required – less than 454 kg.

Question #2

A transport vehicle carrying a Class 3 (flammable liquid) material and described on the shipping paper as, "Poison-Inhalation Hazard" must be placarded _____.

- A. "DANGEROUS"
- B. "FLAMMABLE"
- C. "FLAMMABLE" and "POISON-INHALATION HAZARD"
- D. "POISON-INHALATION HAZARD"

Question #3

A cargo tank used to transport 30,283 liters of gasoline, Class 3 (flammable liquid) material, is returning empty. The cargo tank must be placarded _____.

- A. “DANGEROUS”
- B. “FLAMMABLE”
- C. “CORROSIVE”
- D. “RESIDUE”

Question #4

You are the shipper. Your shipping paper reflects an entry for 10,000 kg. of Class 3 (flammable liquid) material packaged in case lots noted as “Ltd. Qty.” What is the placarding requirement for this shipment?

- A. “COMBUSTIBLE”
- B. “DANGEROUS”
- C. “FLAMMABLE”
- D. No placard is required

Question #5

A “POISON” placard would not be the appropriate placard for hazardous materials classified as a:

- A. Division 2.3
- B. Class 3, Poison-Inhalation Hazard
- C. Division 6.1
- D. Both A and B

Question #6

No _____ may accept a rail car containing a hazardous material for transportation unless the placards for the hazardous material are affixed to the rail car in the manner prescribed in the HMR.

- A. rail carrier
- B. customer
- C. consignee
- D. intermodal rail carrier; others are regulated under IMDG

Question #7

A non-bulk packaging that contains only the residue of a Class 3 (flammable liquid)

_____.

- A. need not be considered in determining placarding requirements
- B. may be transported only after being cleaned and purged
- C. must be considered when determining placarding requirements
- D. must not be transported

Question #8

No person may affix or display on a packaging, freight container, unit load device, motor vehicle or rail car, which of the following?

- A. “HOT”
- B. “DRIVE SAFELY”
- C. “BIOHAZARD”
- D. 1203 ID number

Question #9

Which of the requirements listed here is not a requirement for the visibility and display of placards?

- A. Must be located clear of ladders, pipes, doors, and tarps
- B. Must be located at least 3 inches away from other advertisements and markings
- C. Affixed to a background of contrasting color or have a dotted / solid color outer border.
- D. None – all are requirements for placard visibility and display

Question #10

The placarding requirements apply to which of these groups of materials?

- A. Infectious substances
- B. Hazardous materials offered for transportation as Limited Quantities when identified as such on the shipping papers
- C. Flammable gas in bulk packagings
- D. Hazardous materials classed as ORM-D

Question #11

When affixing a placard to a transport vehicle, bulk packaging, freight container or aircraft unit load device, which of these actions does NOT satisfy the visibility requirement?

- A. affixing the placard to a background of contrasting color
- B. affixing the placard to a background of a non-contrasting color
- C. use of a dotted line outer border which contrasts with the background color
- D. use of a solid line outer border which contrasts with the background color

Question #12

Which of these placards are properly displayed?

- A. “FLAMMABLE SOLIDS” placard displayed right-side up, mid-way along the length of the trailer and away from the splash-up of dirt and water from the wheels.
- B. “RADIOACTIVE” placard displayed right-side up and behind the ladder attached to trailer.
- C. “NON-FLAMMABLE GAS” placard displayed upside-down, mid-way along the length of the trailer, and high enough up to be away from road grime.
- D. “FLAMMABLE GAS” placard displayed on top of a “DRIVE SAFELY” placard.

Question #13

Which of these conditions cause a visibility issue that would require the carrier to correct or replace a hazmat placard?

- A. placard is no longer affixed to the transport vehicle
- B. placard color has become faded and deteriorated
- C. writing on the placard is no longer legible
- D. All of the above

Question #14

Which of these words may be used in place of the word “FLAMMABLE” on a Class 3 placard that is displayed on a cargo tank or a portable tank being used to transport this material by highway?

- A. “DIESEL FUEL”
- B. “FUEL OIL”
- C. “GASOLINE”
- D. “KEROSENE”

Question #15

A mixed shipment of Class 1 materials comprised of Division 1.1 explosives, Division 1.2 explosives, and Division 1.3 explosives is present on a transport vehicle, rail car, freight container, or unit load device. Which one of the placards must be displayed?

- A. “EXPLOSIVES 1.1”
- B. “EXPLOSIVES 1.2”
- C. “EXPLOSIVES 1.3”
- D. “DANGEROUS”

Question #16

A Class 3 (flammable liquid) shipment of 1,814 kg. is loaded into a freight container with a total capacity of more than 18 cubic meters. Which of these placards must be affixed to the side of this freight container?

- A. “DANGEROUS”
- B. “FLAMMABLE”
- C. “FLAMMABLE LIQUID”
- D. “COMBUSTIBLE”

Question #17

For a mixed shipment of a Division 5.1 (“OXIDIZER”-labeled) material with a total weight of 272 kg. and 318 kg. of a Division 6.1 (“POISON”-labeled), PGIII material, the carrier may affix which of the following placard(s)?

- A. “OXIDIZER” and “HAZARDOUS”
- B. “POISON” and “INHALATION HAZARD”
- C. “POISON GAS” and “DANGEROUS”
- D. “DANGEROUS”

Question #18

A shipment of 4,000 kg. of Class 8 (corrosive) material and a shipment of 3,629 liters of a Class 3 (flammable liquid) material are loaded at one loading facility on a freight container, unit load device, transport vehicle, or rail car. What placard(s) must be displayed on the container, device, vehicle, or car?

- A. “CORROSIVE”
- B. “CORROSIVE” and “FLAMMABLE”
- C. “DANGEROUS”
- D. “FLAMMABLE”

Question #19

A freight container offered by air, with a capacity of less than 18 cubic meters containing a hazardous material requires no placard(s), but must be labeled _____.

- A. on one end
- B. on one side
- C. on either both ends or both sides; one label on or near the closure
- D. None of the above – no labels are required

Question #20

A transport vehicle containing packages of a Class 7 (Radioactive) material labeled “RADIOACTIVE-Yellow III” and packages of a Division 1.3 (Explosive) must be placarded with _____.

- A. “EXPLOSIVES 1.3” and “RADIOACTIVE”
- B. “EXPLOSIVES 1.3”
- C. “RADIOACTIVE”
- D. “DANGEROUS”

Question #21

Which placard may be used in place of a “COMBUSTIBLE” placard on cargo tanks, portable tanks, and compartmented tank cars containing both flammable and combustible liquids?

- A. “DANGEROUS”
- B. “FLAMMABLE”
- C. “FLAMMABLE GAS”
- D. “FLAMMABLE LIQUID”

Question #22

Table 1 located in §172.504, contains a list of hazardous materials by class / division / category that require the carrier of the transport vehicle or freight container to display placards for _____ of material contained.

- A. 2,000 kg. or more
- B. 1,000 kg. or more
- C. 454 kg. or more
- D. any quantity

Question #23

Placards required by the HMR are NOT needed if the transport vehicle, packaging or freight container already display placards in accordance with the Canadian Transport of Dangerous Goods Regulations (TDG), _____, or the United Nations Recommendations (UN).

- A. the International Civil Aviation Organization (ICAO)
- B. the American Trucking Association
- C. the International Maritime Dangerous Goods Code (IMDG)
- D. the Association of American Railroads (AAR)

Question #24

What does this marking represent?

- A. Identifies the Elevated temperature liquid, n.o.s., 9, UN3257, PGIII, even though the hazardous material does not require a placard
- B. Identifies Fuel oil (No 2), 3, NA1993, PGIII
- C. Identifies Chlorine, 2.3, UN1017
- D. Identifies Isopropanol, 3, UN1219, PGII

Question #25

A placard must be displayed for which of these groups of hazardous materials?

- A. Certain Class 3 and Division 4.1, 4.2, 4.3, 5.1, 6.1, and Classes 8 and 9 materials prepared for transportation IAW §173.13
- B. Combustible liquids when packaged in non-bulk packagings
- C. Class 9 materials when transported between places in the US other than through a foreign country
- D. Class 7 radioactive materials with a Radioactive-Yellow III label